

Abstract

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An apparatus for separating a mixture of a less dense fluid, a more dense fluid, and fines. The less and more dense fluids are immiscible with each other. The apparatus comprises a housing having an inlet at an upstream end thereof and an outlet at a downstream end thereof. A separation

10 chamber is located within the housing between the inlet and the outlet.

The separation chamber comprises a generally horizontal enclosure and a screw defining a helical passage through the enclosure. The separation chamber has at least one upper aperture located in an upper portion of the helical passage and at least one lower aperture located in a lower portion

15 of the helical passage. A baffle is attached between the housing and the separation chamber for directing at least a portion of the mixture into the separation chamber. As the mixture is directed through the helical

passage at least a portion of the less dense fluid passes through the upper aperture into an upper collection zone in the housing, and at least a

20 portion of the fines passes through the lower aperture into a lower collection zone in the housing.